

there are likewise several exceptions ; but the osseous fishes, I believe, afford numerous examples, especially among the *Salmonidæ* and *Scomberidæ*. Thus I have recently examined the blood of the Common Tunny (*Thynnus vulgaris*), weighing about 320 lbs., and the corpuscles were rather smaller than those of the Mackerel (*Scomber scomber*).

I have also had an opportunity of examining some of the cast skin of the Salamander, which has been thrown off since the arrival of the reptile at the Gardens. The subjoined are drawings I have taken of this and of the cast skin of the *Triton cristatus* : fig. 1 represents the former and fig. 2 the latter, magnified 60 diameters.

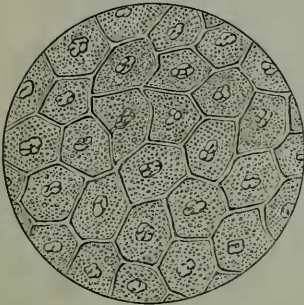


Fig. 1.

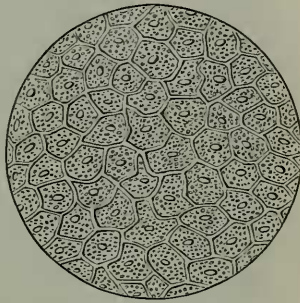


Fig. 2.

It will be seen that the epidermoid cells in both are hexagonal, and that those of the Salamander (fig. 1) are more than double the size of those of the Triton (fig. 2) ; the former measuring about  $\frac{1}{3\frac{3}{10}}$ th of an inch in diameter, the latter about  $\frac{1}{5\frac{1}{10}}$ th. It will be curious hereafter to observe the relative proportion of these cells to the blood-globules in other reptiles.

I purpose placing before the Society at an early period a comparative estimate of the size of the blood-corpuscles of this Gigantic Salamander, and those of the Siren, Lepidosiren, Proteus, and other reptiles.

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April 24th, 1860.

Dr. Gray, V.P., in the Chair.

Mr. Bartlett exhibited a series of the eggs of Struthions birds, including those of the Northern and Southern Ostrich, the American and Darwin's Rhea, the Common and Spotted Emeus (*Dromæus novæ hollandiæ* and *D. irroratus*), the Common Cassowary, and the Mooruk (*Casuarus bennettii*). The latter had been laid in the Society's Gardens on the 21st of April by the bird received from

Dr. Bennett in May 1858, which was thus proved to be a female. This egg (see Aves, Pl. CLXII.) was of a pale grass-green colour, closely freckled with paler colouring, and much smoother and more finely granulated than that of the Common Cassowary. It measured 6·0 by 3·45 inches, and weighed 22½ oz. Its shape was more elongated and pyriform than that of the Cassowary or Emeu.

Mr. Gould exhibited specimens of the Chough of the Himalayas, which he proposed to call *Fregilus himalayanus*, and pointed out the characters which distinguish it from the European bird (*F. graculus*).

Mr. F. H. Wilson exhibited four examples of a curiously-coloured variety of the Common Mole (*Talpa europæa*), and read the following note on them :—

“Nine of these Albinos were caught in the same meadow within a few days, on Mr. Gibbon’s farm, Beckenham, Kent. The Mole in general has four or five young ones at a birth. It is possible that all these were the offsprings of the same parent, but I should think they must have bred amongst themselves. They were caught February 20th, 1860.”

Mr. Sclater announced the arrival of some interesting animals from British Honduras, presented by R. Temple, Esq., Chief Justice of the Colony, to the Society’s Menagerie. These consisted of a pair of Guans (*Penelope purpurascens*), a pair of Curassows (*Crax globicera*), a Collared Peccary (*Dicotyles torquatus*), and specimens of a singular breed of the Domestic Fowl, remarkable for its bones being black.

Mr. Sclater observed that the following letter received from Mr. Temple seemed to indicate the presence in British Honduras of a second species of Peccary, called the ‘Warree,’ about which more information would be very desirable :—

“16 St. James’ Square,  
Notting Hill, April 20th, 1860.

“SIR,—The Warree, about which you wish me to give you some information, differs in some respects from the Peccary. The latter, as I said before, is never seen, except in couples,—the former invariably appears in large flocks. The head of the Peccary is very large and clumsy in proportion to the body. That of the Warree is less disproportionate. The coat or skin of the Peccary is covered with long hairs, which are darkish at the roots, and lighter coloured at the tips. The colour of the Warree is a dirty black, and the hair is long and tangled. The legs of the Peccary are shorter than those of the Warree. Both have the same orifice on the back, from which exudes a liquid having a very offensive odour. When either of these animals is shot for the purpose of being eaten (and they are excellent food), the orifice on the back must be instantly cut out, or the whole of the flesh will become so much tainted, that, so far from being able to eat it, you cannot tolerate its vicinity. But if the excisional knife has been applied in time, the flesh is sweet, white, short, and tender. The Warree is a far more ferocious animal than the Peccary; but



M. R. Harber

EGG OF CASUARIUS BENNETTI

PLATE 10



his courage perhaps may arise from a principle not quite a stranger to the human breast—a consciousness of being well supported; for, as I have said, they are always seen in multitudes. If you meet a flock of Warrees in the bush, and you take no notice of them, it is probable that they will take no notice of you. But if your intentions are hostile, and your design is to transfer one of them from his native wilderness to your kitchen, you must take care to place yourself in a safe position before you carry your design into execution. A gentleman, not long since, shot a Warree without having taken the necessary precautions; the remainder of the flock instantly pursued him, and if he had not managed to climb into a tree, he would have been torn in pieces. But he was kept a prisoner in that leafy asylum for many hours, the surviving Warrees being bent on revenging the death of their companion. Even when the flock went a little distance to feed, they left two or three to stand guard at the foot of the tree. The hunter has no difficulty in tracing the Peccary and the Warree, by the strong odour which prevails wherever they have been.

“ I am, Sir,

“ Your obedient servant,

“ R. TEMPLE.”

The following papers were read :—

1. ON THE RHEAS IN THE SOCIETY'S MENAGERIE, WITH REMARKS ON THE KNOWN SPECIES OF STRUTHIOUS BIRDS. BY PHILIP LUTLEY SCLATER.

In November 1858 the late Mr. Thompson purchased for the Society in Liverpool a young *Rhea*, which now seems to have nearly attained its adult growth. It proves to be so remarkably different from the Common Rhea (*Rhea americana*) and the Darwin's Rhea (*Rhea darwini*), examples of which are kept in the same inclosure with it, that I have little hesitation in characterizing it as of a different species; and in so doing I believe I have the concurrence of Mr. Gould, Mr. Bartlett, and other naturalists, who have had an opportunity of examining the bird.

The Long-billed Rhea (*Rhea macrorhyncha*, as I propose to call it) is a much smaller bird than the Common Rhea. The example in the Gardens, a male, stands about 6 inches lower than the two females of the American Rhea, which are in its company, and we may reasonably suppose that the female is proportionately smaller. The bill is much longer than that of the Common Rhea, as may be seen from the drawings (woodcut, figs. 1, 2, 3), which represent the heads of the three species, and the head-feathers are longer and more closely flattened down. On the other hand, the tarsi are much more slender and the toes much shorter. The thighs are less thickly clothed than in the Common Rhea; but the scutellation of the tarsi seems to be nearly the same in both these birds, and offers a marked contrast to that of *Rhea darwini*, in which the tarsi are for the greater part covered with reticulated scales. The feathers of the body are longer in the Long-billed Rhea, and curve round it, hiding the outline, in a manner not observable in the Common Rhea. With regard to

colouring, the new species is also very different, being of a brownish-grey mixed with black, and altogether much darker than *Rhea ame-*



Fig. 1.

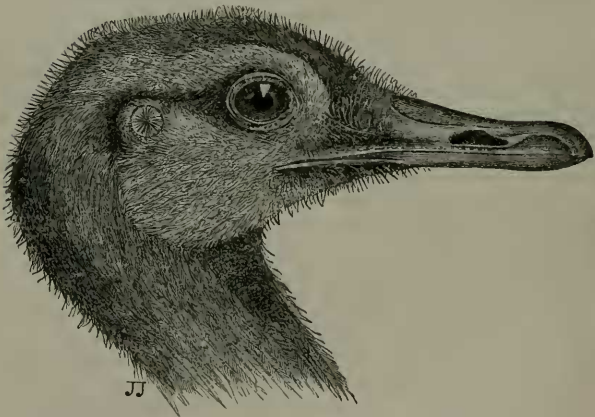


Fig. 2.

*ricana*. The top of the head and streak at the back of the neck in particular are of a deep black.

The accompanying drawings represent (fig. 1) the head of the new Rhea (*R. macrorhyncha*) and the heads of the two other species, *Rhea americana* (fig. 2) and *Rhea darwinii* (fig. 3), which are given for the sake of comparison.

I am told that this Rhea is already known to some of the dealers in living animals as a distinct species; and I hope it will not be long before we obtain further particulars concerning it, and discover what part of South America it inhabits.



Fig. 3.

I take this opportunity of bringing before the Society a short *résumé* of the present state of our knowledge of the species of *Struthionidæ*, which appear to be more numerous than was formerly supposed.

#### I. STRUTHIO.

The Æthiopian type of the *Struthionidæ* (the most perfect of the kind, as is its type of the Anthropoid Apes) requires our first attention. I have long suspected that the Ostrich of Southern Africa, when closely compared with the bird of the Sahara, will turn out to be a different species, and I know that many other naturalists share my views. The eggs, as Mr. Bartlett has shown in exhibiting his fine series of the eggs of *Struthionidæ* this evening, seem to present well-marked differences. That attributed to the Southern bird is smaller and very much smoother and less deeply pitted, the granulations in some specimens being nearly evanescent. But I have reason to believe that the Southern bird is the larger in size. Through the unfortunate loss of both the young Ostriches presented to the Society by Sir George Grey last summer, we have missed the opportunity which we should otherwise have had of comparing them with the noble examples of the Northern bird which grace our Menagerie. But, as Sir George Grey, who is now returning to the Cape Colony, has promised to obtain for us other adult examples, there

is every reason to believe that we shall ere long be able to make the desired comparisons\*.

The Ostrich of the Syrian and Arabian Deserts, mentioned by Col. Chesney (Journ. Euphr. Exp. i. p. 588), Dr. Layard (Nineveh, i. p. 324), and other writers, and frequently referred to in the Holy Scriptures†, should also be carefully examined. It is not improbable that it may turn out to be a third species or well-marked local variety.

In the interior of Africa there is said by some of the older writers to exist a diminutive Ostrich (*L'Autruchon*). I have lately received some information on this subject from Mr. J. Petherick, H.B.M. Consul for Sudan, who tells me that his hunters have actually had this bird alive, and I have requested him to endeavour to procure further evidence on this point.

## II. RHEA.

I have already pointed out above the characters which distinguish *Rhea macrorhyncha*—the third species of the Neotropical type of the *Struthionidæ*—from the two previously known, *R. americana* and *R. darwini*. There are examples of all three living in the Society's Gardens.

## III. CASUARIUS.

The Indian Region, like the two Northern Geographical Regions—the Palæarctic and Nearctic‡—has no Struthious birds—the genus *Casuaris* being confined to the northern portion of the Australasian Region, and represented in the main land of Australia by species of the nearly allied genus *Dromæus*. Of *Casuaris* we have indications of the existence of five species, as follows:—

1. *Casuaris galeatus*, the Common Cassowary. In the Leyden Museum are specimens of this bird from Ceram, the only certain locality I know for it. We have a very fine male example living in our Gardens.

2. *Casuaris bennettii* (P. Z. S. 1857, p. 268, pl. 129; 1858, p. 271; 1859, p. 32), the Mooruk of New Britain, of which we have three examples in our Gardens.

3. *Casuaris australis* (P. Z. S. 1857, p. 268), discovered by the late Mr. Wall on Cape York, Northern Australia, and said to be distinguished by a "bright red helmet and blue and scarlet caruncles." The only example yet obtained of this bird has been unfortunately lost.

4. *Casuaris* —, a species living in the menagerie of the Babu

\* Prince Bonaparte speaks of a *Struthio epoasticus*, Compt. Rend. xliii. p. 785, but I cannot make out that he refers to either the southern or northern species.

† Isaiah, ch. xliii. v. 21: "*Habitabunt ibi Struthiones*," translated in our version 'doleful creatures!' Also Lamentations, iv. 3; Job, xxxix. 13 *et seq.*, and other passages. The Ostrich was unclean according to the Jewish law.

‡ Confer Journ. Proc. Linn. Soc. ii. p. 130 (1858).



Rajendra Mullick of Calcutta, and mentioned by Mr. Blyth\* as having "a yellow throat, a single yellow throat-wattle, and a long stripe of naked yellow skin down each side of the neck." I have not yet received Mr. Blyth's published description of this bird.

5. *Casuaricus bicarunculatus*, a name I propose to apply to a Casowary of which I have recently obtained a young example for the Society in exchange from the Zoological Gardens at Rotterdam. It is easily distinguishable by the throat-caruncles being placed far apart on the sides of the throat, lighter colouring, &c. As the bird itself will shortly arrive in this country, I hope to be able to give full particulars concerning this new species at the next Meeting of the Society.

#### IV. DROMÆUS.

At a Meeting of this Society in May last†, Mr. Bartlett gave us some indications of the existence of a second species of Emeu in South Australia, and proposed to call it *Dromæus irroratus*. I have lately had the pleasure of examining two specimens of this Emeu in Holland. One of these, now in the Gardens of the Zoological Society of Amsterdam, was brought from Albany in Western Australia, and thus renders it probable that the Spotted Emeu is the western representative of the *D. novæ hollandiæ*. The second, now in the Zoological Gardens at Rotterdam, I have obtained by exchange for this Society; and, as we may hope to see it in our own Gardens in a few days alongside the Eastern species, I reserve further notice of it until I have had a more satisfactory opportunity for its examination.

It thus appears that there are some grounds for supposing that the species of *Struthionidæ* now in existence may amount to not less than fourteen or fifteen in number.

#### 2. NOTES ON A SECOND COLLECTION OF MAMMALIA MADE BY MR. FRASER IN THE REPUBLIC OF ECUADOR. BY ROBERT F. TOMES.

Since my previous notes on the Mammals collected by Mr. Fraser at Gualaquiza (P. Z. S. 1858, p. 546), a considerable number of specimens have been received from him, many of them of great interest. The following is a list of the species transmitted. The greater portion of these are believed to have been collected at Pallatanga, on the western slope of the Cordillera; but the exact locality is not certain, from the specimens having been unfortunately mixed together.

##### 1. VESPERTILIO NIGRICANS, Pr. Max.

*V. chiloënsis*, Waterh.

The collection contains four specimens of this species. In my

\* *Ibis*, 1860, p. 193.

† See P. Z. S. 1859, p. 205.

former list I included *V. chiloënsis*, but find on closer examination that the specimens there mentioned should have been referred to an allied, but smaller species, the *Vesp. isidori*, which is probably identical with the *V. albescens* of M. Geoffroy. The Bat which I now instance is certainly identical with the *V. chiloënsis* of Mr. Waterhouse, as I have in my collection numerous specimens from various parts of South America, and from Mexico, with which it perfectly agrees, and which have been carefully compared with the type specimen of *V. chiloënsis* and found to be similar.

## 2. ARCTIBEUS LILIUM, Geoff. sp.

*Phyllostoma lilium*, Geoff.

*Sturnira spectrum*, Gray.

Six specimens have been sent home by Mr. Fraser. It is a very common species, and appears throughout the greater part of South America, and as far north as Mexico; but I have not seen specimens from Jamaica or other West Indian Islands, although the larger species of *Arctibeus*, common in South America, are also common there.

## 3. DESMODUS RUFUS, Pr. Max.

As many as five specimens are contained in the collection, and this, as well as the tolerable plenty in which it appears in other collections from South America, would seem to show that it is by no means a rare animal. I have also seen specimens collected in Mexico by M. Sallé, which were in all respects similar to those from South America.

## 4. DIPHYLLA ECAUDATA, Spix.

In the 'Voyage dans l'Amerique Méridionale' of M. D'Orbigny, plate 9, two outline figures are given of the dentition of this animal, from which, if we may believe in their authenticity, the *Diphylla* must be closely affined to the frugivorous *Phyllostomidæ*. It is much more probable, however, that these figures escaped that correction of the plates which they had to undergo after being executed, by the letter-press of the work, as the species is nowhere mentioned in the latter. The figures in question appear to me to refer to the cranium of the *Phyllostoma (Arctibeus) lilium*. Excepting these figures, I have nowhere met with any original allusion to the *Diphylla* since the account given by the original describer, and it is probable that no other specimens have been met with, until the appearance of the present one from Mr. Fraser. The improbability of any near alliance with the frugivorous *Phyllostomidæ* will be best explained by the following note appended to this specimen by Mr. Fraser:—

"Rio Napo. *Murcielago*. This specimen was taken by the son of Professor Jamieson in the act of drawing blood from a man."

*Murcielago* is the Spanish name for this Bat. In general form, in the shape of the head and face, and in the strength of the claws, it bears considerable resemblance to the *Desmodus*, and I venture to

predict that when its dentition has been examined it will be found to differ in no important respects from the dentition of that genus.

5. *MOLOSSUS OBSCURUS*, Geoff. (*M. fumarius*, Spix?)

This Bat is common over the greater part of South America, and one differing only in being a little smaller occurs in the West Indian Islands. Mr. Gosse mentions it as *M. fumarius*. Specimens from St. Croix precisely resemble the Jamaican ones.

6. — — ?

A small animal about the size of the Water Shrew (*Sorex fodiens*), with external characters and incisor teeth so much like those of the *Soricidæ* as to have led in the first instance to the belief that it was a placental *Insectivore*, perhaps in some degree resembling the *Solenodon* of Cuba. However, the existence of a small and rudimentary pouch sufficiently attests the implacental nature of the creature, which but for this must certainly, as far as external appearances go, be regarded as one of the *Soricidæ*. A more ample account of it will be given on a future occasion.

7. *SCIURUS ÆSTUANS*.

The specimens contained in the present collection differ from those in the former one in having all the under-parts, which in them were but of a pale rust-colour, of a deep bright ferruginous hue. The males and females are similar. They are all from Pallatanga; and the native name, Mr. Fraser tells us, is "*Ardillo*."

8. *HESPEROMYS RENGGERI*, Waterh.

Of this species the collection contains a good number of specimens which differ in no important respect from those obtained by Mr. Bridges in Bolivia.

9. *H. ELEGANS*, Waterh.

Only two specimens appear, and one of these differs very considerably from the other in having longer and more pointed ears, and in being itself somewhat larger; but these differences I do not consider sufficient to constitute a specific distinction. The crania of these examples are similar, excepting a little difference in size, and are both remarkable for the great length of the incisive foramina.

10. *H. LATIMANUS*, n. s.

The present species, of which the collection contains but a single specimen, a male, accords with moderate accuracy with the dimensions given of the *Mus pyrrhorinus* of Prince Maximilian, but differs so remarkably from this and all other species with which I am acquainted, or can meet with descriptions of, in several important particulars, that I regard it as new, and propose to describe it under the above name.

The face is short, and the muzzle rather tumid; the muffle very

small, and with two pointed, downward processes beneath the nostrils. Fore feet short and broad, their palms with the two hinder tubercles rather large, sparingly covered on their upper surface with short hairs. Claws small and pale in colour. Hind feet rather short and very broad, with the under surface perfectly destitute of hairs for the whole of its breadth, with the exception of the calcaneum, which is well covered. Their upper surfaces clothed with short hairs, which are white on the toes, but nearly black on the middle of the foot; claws short, but rather strong. Tail long, not very thick at the root, and tapering insensibly to a thickish point. It is finely annulated with scales, and slightly suffused with short hairs, much as in the common Rat, *Mus decumanus*, but at the tip there is a small but very distinct tuft of hairs.

The fur is everywhere very thick and soft; that of the whole of the upper parts is dark dusky at the roots, tipped with brown and intermixed with darker hairs, towards the sides of the body tinged with rufous. Beneath, pure white; on the abdomen and pubal region only the hairs are ash-coloured at their roots. The colours of the upper and under parts are divided by a well-defined line along the side of the body. A conspicuous spot of pure white marks the root of the whiskers, which are numerous, strong, and black.

The specimen is a male, and the following are the dimensions:—

	in.	lin.
Length of the head and body . . . . .	4	7
— of the tail . . . . .	6	2
— of the head . . . . .	1	6
— of the ear . . . . .	0	6
— from the end of the nose to the front of the eye . . . . .	0	6½
— from the end of the nose to the front of the ear . . . . .	1	1
— of the fore foot . . . . .	0	6½
— of the hind foot . . . . .	1	1
Breadth of the fore feet, nearly . . . . .	0	3
— of the hind feet, nearly . . . . .	0	3½

The cranium has its nasal part short, scarcely longer than in *H. longicaudatus*, which is a smaller species. The zygomas spring out at once to nearly their full degree of prominence, and extend backwards in the same way as in other species of the genus; but the frontal region is rather more expanded than is usual, so that the space between the orbits is rather broad, and this gives the zygomas the appearance of extending further backward than they really do. The incisive foramina are very long, occupying nearly the whole of the space between the molar and incisor teeth.

	in.	lin.
Length from the anterior extremity of nasal bones to occipital crest . . . . .	1	3
Breadth across the zygomatic arches . . . . .	0	8
— between the orbits . . . . .	0	2½

	in.	lin.
Length of the nasal bones . . . . .	0	5
—— of the molar range . . . . .	0	2½
—— from anterior edge of first molar to point of incisor . . . . .	0	4
—— of lower jaw, from point of incisor to ex- tremity of condyle . . . . .	0	9
—— of molar range . . . . .	0	2½
Height from angular process to top of coronoid process . . . . .	0	4

*Obs.* This species may readily be distinguished by its short head, broad feet, long and but slightly tapering tail with its terminal tuft of hairs, and by the clear line of demarcation of the colours of the upper and under parts. These peculiarities tend to give it less of a rat-like appearance than its congeners, and induced me at first sight to regard it as referable to some other genus,—an illusion that was dispelled by an examination of the cranium.

#### 11. *H. MINUTUS*, n. s.

It is with some hesitation that I proceed to name and describe this species, not from any doubt as to its being perfectly distinct, but on account of the only specimen received being a young animal, so that the description might not apply with exactness to one perfectly adult. However, it is probable that it has attained nearly, if not quite, its full size, as the teeth, although unworn, exhibit a proportionate degree of prominence compared with those of other species; and its cranium, although rounded posteriorly as in young *Muridee*, is yet firmly united at its sutures. I find that very nearly full-grown individuals of *H. longicaudatus* have more distinct indications of immaturity than the specimen in question.

It is a rather remarkable species, scarcely larger than the smallest of our British quadrupeds (the Harvest Mouse), but with a tail nearly twice the length of its own body, and very long and soft fur, in colour like that of the Water Vole, both above and below.

The ears are short, but rather broad, almost black, and a little hairy near their margins. The whiskers are long, fully as long as those of *H. rengerri*, and the upper surfaces of the fore feet are clothed with short white hairs; the nails rather small, and white. The hind-feet, including the tarsus, are very long, much longer relatively than the same parts in *H. longicaudatus*, or indeed than in any other species with which it has been compared. They are sparingly covered with short hairs of a silvery-white colour, tinged with dusky on the middle of the foot, but near the claws very white. The tail tapers evenly to a very fine point, and is finely annulated with small scales, and suffused with fine short hairs, much as in the Common Mouse, *Mus musculus*. It is of a dark grey-brown colour, a little paler beneath.

On all parts the fur is very long, fine, and glossy, as long as or even longer than that of *H. longicaudatus* or *H. rengerri*, and it almost conceals the ears, giving the creature the appearance of an *Arvicola*.

In its general colour it greatly resembles some of the more rufous examples of *Arvicola amphibia*, the fur being deep dusky at the root, tipped with rufous-brown, and with a slight mixture of black hairs. The under parts resemble the upper, except in being a little paler.

	in.	lin.
Length of the head and body .....	2	0
——— of the tail .....	3	0
——— of the head .....	0	9
——— of the ears .....	0	3½
——— from the end of the nose to the anterior margin of the eye .....	0	4
——— from the end of the nose to the front margin of the ear .....	0	7
——— of the fore foot .....	0	4½
——— of the hind foot .....	0	9½
——— from the anterior extremity of the nasal bones to the occiput .....	0	10
Breadth across the zygomatic arches .....	0	5
Length of lower jaw, from point of incisor to the condyloid process .....	0	5¾
Depth from the point of the coronoid process to the posterior or angular process .....	0	2¼

12. *DASYPROCTA FULIGINOSA*, Wagler, Isis, 1832.

*D. nigricans*, Natt. Wagn. Archiv. Naturgesch. 1842.

*D. nigra*, Gray, Ann. & Mag. N. H. 1842.

Of a specimen apparently referable to this species, but a little smaller than the one which furnished the dimensions given by Dr. Wagner, Mr. Fraser speaks thus :—"From Pallatanga ; ♀ by dissection; native name *Guatusa*."

13. *DASYPROCTA CAUDATA*, Lund. Kongl. Danske Videnscab. &c., 1841 ; Waterh. Mam. ii. p. 387.

In the various works on Mammals of South America to which I have access, I do not find this species mentioned, and neither is it included in the general work on Mammalia by Dr. Wagner, so that I conclude that it must be rare. Mr. Waterhouse refers to the original description, and to two specimens in the Leyden Museum, a description of which he gives ; and as in this, as well as in other cases when provided with sufficient materials, he leaves little to be desired, I refrain from further description, except to add, that the species may be at once recognized by its colour, which bears some resemblance to that of the common Badger. The following note accompanying the specimen is of interest :—"From Pallatanga, ♀ by dissection. Native name *Guatusa*. Irides greyish brown. Shot near the house in the day-time : two young in the abdomen, one a male and the other a female, quite naked, about 3 inches in length."

## 14. DIDELPHYS WATERHOUSII, Tomes, P. Z. S. 1860, p. 58.

Another specimen of this species has appeared, like the other one, a female, and resembling it also in all particulars except in having the general hue of the fur more decidedly ferruginous, especially on the side of the body and of the neck, and in having the short hairs on the region of the pouch and pubes of a brownish-yellow colour. The tail is uniform dark brown, without a trace of white or flesh-colour. As this specimen is preserved entire in spirit, I am enabled to give a very complete table of dimensions.

	in.	lin.
Length of the head and body . . . . .	5	7
——— of the tail . . . . .	6	9
——— of the head . . . . .	1	6
——— from end of nose to front margin of eye . . . . .	0	7 $\frac{1}{4}$
——— from end of nose to front margin of ear . . . . .	1	3
——— of the gape-line . . . . .	0	7
——— of the ears . . . . .	0	7
——— of the fore arm . . . . .	0	11 $\frac{1}{2}$
——— of the fore foot and claws . . . . .	0	7
——— of the free portion of the thumb . . . . .	0	3 $\frac{1}{4}$
——— of the tibia . . . . .	1	3
——— of the tarsus and toes . . . . .	0	10 $\frac{1}{2}$
——— of the fore portion of the opposite toe of the hind foot . . . . .	0	2 $\frac{1}{2}$
——— of the hairy portion at the root of the tail . . . . .	0	7

*Obs.* This species appears to resemble somewhat the *D. noctivagans* of Tschudi, but is obviously smaller, and has more black around the eye.

## 15. DIDELPHYS — ?

Very young. Perhaps the young of the last species.

I take this opportunity of correcting an error in my former report, and of adding the description of a species which I noticed, but did not describe.

The species of *Hesperomys* which I referred to *H. longicaudatus* having been removed from spirit, the fur appeared when dried to be so unlike that of the species just mentioned, as to stimulate a closer examination, when other differences were found, quite sufficient to justify the application of the following name and description.

## HESPEROMYS BICOLOR, n. s.

*H. longicaudatus*, Tomes, "Notes on a Collection of Mammalia from Gualaquiza," P. Z. S. 1858, p. 546.

General appearance somewhat like that of *H. longicaudatus*, but rather larger; ears not so broad relatively as in that species, and the fur much shorter, paler in colour, and more cottony in texture. Tail relatively not so long.

The muzzle is rather short and obtuse, and the muffle, as in so many other species of *Hesperomys*, has two little projections under the nostrils, which point downwards. The ears are of the same length as those of *H. longicaudatus*, but they are much narrower than those of that species; they are naked, with the exception of a portion of their hinder surface at the root. The fore feet are rather broad, and have their upper surface suffused with short, fine, pale brown hairs, much as in *H. darwini*; the toes themselves are nearly naked towards the claws, and are destitute of long hairs around the latter; the claws are short, and of a lightish brown colour. In *H. longicaudatus* they are white. Hind feet rather short and broad, and well clothed with very fine short hairs of a cinnamon-brown colour, which are whiter on the toes; claws light brown. Tail annulated with exceedingly small scales, much smaller than those of the tail of any other species examined, and sparingly suffused with extremely fine and short hairs, forming at the end a pencil of exceeding softness. It is everywhere of a uniform dark brown colour.

The fur of the body is on all parts short and thick, soft to the touch, and perfectly devoid of lustre, and it has but a very trifling number of the usual longer and darker hairs. On the head and face it is no longer than that of the common Shrew (*Sorex vulgaris*, Linn.), and it is nearly as fine as in that animal. All the upper parts are darkish cinnamon-brown (the fur being ash-coloured at the root), and the brown colour extends along the exposed or outer surface of the limb. The fur of the whole of the under surface, from the chin to the vent, and the inside of the limbs, uniform yellowish white from root to tip. The line of division of the brown and white is moderately distinct, very much as in adult specimens of *Mus sylvaticus*, to which animal it bears in general appearance some resemblance. A pure white spot marks the root of the whiskers, which are few in number, very long, and black.

	in. lin.
Length of the head and body, about . . . . .	3 9
——— of the tail, about . . . . .	3 6
——— of the head . . . . .	1 3
——— of the ears . . . . .	0 4 $\frac{1}{4}$
Breadth of the ears . . . . .	0 3 $\frac{1}{2}$
Length from the end of the nose to the eye . . . . .	0 6
——— from the end of the nose to the ear . . . . .	0 10
——— of the fore foot and claws . . . . .	0 6
——— of the hind foot and claws . . . . .	0 9 $\frac{1}{2}$

*Cranium.*—The skull of this species is a miniature of that of *H. latimanus*, and bears but little resemblance to that of *H. longicaudatus*. It is chiefly remarkable for the breadth of the frontal bones, by which the space between the orbits is rendered much wider, and



its narrowest part reduced to a mere point in an antero-posterior direction ; whereas in all the other species examined, with the exception of *H. latimanus*, the greater part of the space which lies between the orbits is of equal breadth. In *H. elegans* this is remarkably the case.

The lower jaws of this species and its fellow, *H. latimanus*, exhibit a difference also from most other species in the comparative shortness of the *posterior angle* or *descending ramus*, so that the hinder margin of the jaw, from the condyle to the *angle*, forms but a very slight curve. In most species, and especially in *H. elegans*, this part of the jaw is deeply emarginate.

	in.	lin.
Length from the extremity of the nasal bone to the prominence above the foramen magnum ..	1	1
Breadth across the zygomatic arch .....	0	7
—— between the orbits .....	0	2½
Length of the nasal bones .....	0	4
—— of the molar range (upper jaw) .....	0	2
—— from anterior edge of front molar to the point of the incisor .....	0	3¾
—— of the lower jaw, from the point of the incisor to the condyle .....	0	8
—— of molar range (lower jaw) .....	0	2
Height from the angular process to the summit of the coronoid process .....	0	3½

#### H. AUREUS, n. s.

The colour of this species is sufficient to distinguish it from all others. It is of a golden-brown colour on all the upper parts, and similar beneath, but paler and much duller.

The muffle has two very distinct points beneath the nostrils ; the ears are of medium size, as broad as long, and somewhat hairy on both their surfaces ; the whiskers are numerous, long and black. The arms are well clothed with fur like that of the body, quite to the wrists, and the feet have all their upper surface well covered by short and shining hairs of a brownish yellow colour. The hinder feet are similarly clothed with shining hairs, those which are above and around the claws long and yellow ; on the calcaneum is a distinct tuft of curved bristly hairs. The tail is finely annulated, and suffused with exceedingly short hairs, which do not conceal the scales, and is of a uniform darkish brown colour.

The fur is long and thick, but not very fine. Everywhere it is dark dusky at the root, with its terminal fourth bright yellow brown. On all the under parts similar, but paler and less bright ; and along the dorsal line there is a sufficient mixture of longish black hairs to conceal the bright colour of the fur. On the hind part of the back, the rump, and back of the thighs, it is bright enough to be properly styled a golden brown, somewhat like the colouring of the most vivid examples of the *Agouti* (*Dasyprocta*).

	in.	lin.
Length of the head and body, about . . . . .	6	6
— of the tail . . . . .	9	0
— of the head . . . . .	1	9
— of the ears . . . . .	0	8
— of the fore foot and claws . . . . .	0	9
— of the fore arm . . . . .	1	1
— of the tibia . . . . .	1	6
— of the hind foot and claws . . . . .	1	4

*Obs.*—The species which are here described under the names of *H. latimanus* and *H. bicolor* do not fall with facility under either of the subgenera proposed by Mr. Waterhouse; and neither do they agree with the species which are brought by Wagner and Burmeister under the generic or sub-generic name of *Holochilus*. They constitute rather a group of themselves, which I will here briefly characterize.

But I may premise, before doing this, that it seems to me needless to encumber science with another name; for I am scarcely of opinion that this or any other of the groups into which the genus *Hesperomys* has been divided, should be regarded as more than divisions for the convenience of description and identification. A group which is characterized in as purely superficial a manner as are those now under review, should, to hold a recognizable place in any system, have a well-defined outline: although removed to but a little distance from allied groups, the intervening space should be quite clear of outliers from either side. There are perhaps but few such groups to be met with, but there are some. It is probable that such occur in the *Soricidæ*, and amongst the Bats I can cite two good instances. The genus *Nycticejus* of Asia and Africa differs from the heavy-built *Vespertiliones* (*Scotophilus*) in a trifling but constant manner, the characteristic differences appearing to be but feeble in a generic signification; but immensely strengthened by their constancy. The genus contains several well-marked species, all of which possess the same characteristics in a nearly equal degree. Another and equally good instance is the genus *Lasiurus*, confined to the New World.

I have in vain sought for anything like this amongst the subgenera into which *Hesperomys* has been divided; I even find sufficient variation in different individuals of some of the species to endanger these divisions. For instance, the difference in the length of the tail in *adult* specimens of *H. longicaudatus* is very considerable, and the ears in *H. elegans* vary in size in a remarkable manner, so much so, as to give the idea of two distinct species. But the peculiarity is wholly superficial, and is *highly variable*. By these variations the subgenera *Calomys* and *Phyllotis* are, as it were, mixed up and blended, and their value impaired. The genus itself—*Hesperomys*—may more properly be likened to the genera of *Vespertilionidæ* of which I have spoken, as it is distinct from the cosmopolitan genus *Mus* in one only, but very constant point of dissimilarity—the presence of a rather greater number of folds of enamel in the crowns of the molar teeth. We do not know the exact degree of importance

to attach to this character, existing as it does unsupported by other associative characters. With the very close resemblance which in other respects obtains between these Old and New World *Muridæ*, ought we to consider this one point as indicative of more than sub-generic difference?

The following are the groups into which the genus has been divided by Mr. Waterhouse, with the addition of one for the reception of the two species here described—*H. latimanus* and *H. bicolor*.

A. *Scapetromys*, Waterh. Ex. *Hesperomys tumidus*, Waterh.

B. *Oxymycterus*, Waterh. Ex. *H. nasutus*, Waterh.

C. *Abrothrix*, Waterh. Ex. *H. longipilus*, Waterh.

D. *Calomys*, Waterh. Ex. *H. bimaculatus* & *H. elegans*, Waterh.

E. *Phyllotis*, Waterh. Ex. *H. darwini*, Waterh.

F. Characterized thus :—Muzzle short and tumid ; ears small and naked, but not concealed by the fur ; feet short, broad and strong ; claws short ; tail as long as or longer than the body, nearly naked, but with more or less of a pencil of hairs at the tip, rather thin at the root, and tapering but slightly to a blunt point ; fur short, thick, soft, and without gloss.

= *Rhipidomys*, *Tschudi*

### 3. ON THE BLACK-SHOULDERED PEACOCK OF LATHAM (*PAVO NIGRIPENNIS*). BY P. L. SCLATER.

The species of the genus *Pavo* generally recognized by naturalists since the time of Linnæus have been two in number—the Common Peacock (*Pavo cristatus*) and the Javanese or Green Peacock (*Pavo muticus*). My present object is to call the attention of the Society to what seems to be a *third* distinct species, in some respects intermediate between these two, and which, though long since introduced into Europe and often bred in our aviaries, appears in some mysterious manner to have almost escaped the notice of naturalists, and to have been left unprovided with a specific name up to this time.

The bird I allude to is the Black-shouldered Peacock of Latham's 'General History' (vol. viii. p. 114), where its differences from the true *Pavo cristatus* are accurately pointed out. They are, indeed, very obvious on comparison of either sex of these two birds, as may be seen by any one who will take the trouble to inspect the fine series of Pea-fowl belonging to C. Clifton, Esq., now under the Society's care in the Regent's Park Gardens.

In the Black-shouldered Peacock of Latham (a term which I propose to Latinize into *Pavo nigripennis*), the metallic green of the back, which forms the centre of the train, when expanded, is of a more golden hue than in *P. cristatus*, which it otherwise most generally resembles. The whole of the secondaries, scapulars, and wing-coverts are black with outer narrow edgings of green, which becomes bluish towards the carpal joint. In this particular it re-

sembles *P. muticus*, and is very different from *P. cristatus*, in which all these feathers are cream-coloured crossed with black markings. The thighs of *P. nigripennis* are black, as in *P. muticus*. In *P. cristatus* they are always of a pale drab. The female of *P. nigripennis* is of a much lighter colouring than that of *P. cristatus*, being almost entirely of a pale cream-colour, mottled with dark colouring above, and readily recognizable at first sight. In this respect, it may be remarked that the Black-shouldered Peacock is not intermediate between the two others; since in *Pavo muticus* the female is much more like the male.

Now the question arises, What is the Black-shouldered Peacock? Is it a domestic variety, a hybrid, or a feral species? I cannot consider it a domestic variety, because the differences in both sexes appear to be constant, and to descend to the progeny; and, indeed, are not of that sort that would be induced by domestication. M. Temminck, in his 'Histoire Naturelle des Pigeons et des Gallinacés,\*' considers the Black-shouldered Peacock as the true Wild Peacock, and the *Pavo cristatus* to be a domestic variety of *that*. But this we know is not the case; the Common Wild Pea-fowl of Hindostan being the true *Pavo cristatus*, and the Black-shouldered Peacock being, as I believe, *unknown* in that country†. That the *Pavo nigripennis* is not a hybrid between *P. cristatus* and *Pavo muticus*, is evident from the fact that we have now in our Gardens birds produced by this cross, and that they bear different characters altogether, as may be seen by the stuffed specimen which I now exhibit. Besides, the fertility of the birds, and the permanency and invariability of the differences which separate it from its two allies, seem to be quite conclusive against this view. If, therefore, it is not a domestic breed nor a hybrid, we must adopt the third alternative, and consider *Pavo nigripennis* as a distinct feral species. And I have little doubt that when the range of the *Pavonidæ* is more accurately known, we shall find that *Pavo nigripennis* occupies a distinct geographical area, which will in all probability be intermediate in position, as the bird is in characters, between *Pavo cristatus* and *Pavo muticus*.

Attention having been now called to this subject, I hope that no opportunity will be lost of examining the eggs, the osteology, and the anatomy of these birds, in order to ascertain whether the external characters are supported by other grounds of differentiation.

\* Vol. ii. p. 26, Paon Sauvage: *Pavo cristatus primus*.

† Our Head Keeper, Mr. James Thompson, who was in Calcutta in 1857, informs me that the Babu Rajendra Mullick, who is the owner of a very fine collection of living animals, had never seen the Black-shouldered Peacock, though he had specimens both of the Common and Javanese species in his Aviaries, and had bred hybrids between these two.

4. ON THE SPECIES OF THE GENUS PRIONITURUS, AND ON THE GEOGRAPHICAL DISTRIBUTION OF THE PSITTACIDÆ IN THE EASTERN ARCHIPELAGO. BY PHILIP LUTLEY SCLATER, M.A., SECRETARY TO THE SOCIETY.

Having lately examined specimens of all the known species of the group of Parrots denominated *Prioniturus* by Wagler, I take the opportunity of endeavouring to rectify some errors which have been made with regard to their synonymy and geographical distribution.

Genus PRIONITURUS, Wagler.

a. *Prioniturus*.

1. PRIONITURUS FLAVICANS.

*Psittacus platurus*, Vieill. Nouv. Dict. xxv. p. 314, et Enc. Méth. p. 1367 (?).

*Prioniturus flavicans*, Cassin, Proc. Ac. Phil. vi. p. 373; Journ. Ac. Phil. iii. p. 155 (♀).

“*Psittacus discosurus*, Vieill.”, Temm. in Mus. Lugd.

Diagn.—♂. *Viridis, collo undique cum pectore toto flavicantibus: macula verticali ruberrima undique cæruleo circumdata: alis extus viridibus fere concoloribus: rectricibus intermediis valde elongatis, denudatis, disco terminatis.*

♀. *Pileo cyanescente: macula verticali nulla: collo undique cum pectore flavicantibus: rectricibus intermediis paulo elongatis, apicibus angustatis, et subdisciformibus.*

*Hab.* In ins. Celebes, regione Boreali circa lacum Tondano (*Forsten et Wallace*).

*Mus.* Lugdunensi (♂ et ♀).

Examples of both sexes of this Parrot are in the Leyden Museum, obtained by Forsten at Tondano in Northern Celebes, and marked ‘*Psittacus discosurus*, Vieill.’ The bird is not *Psittacus discurus* of Vieillot, but possibly, I think I may say probably, his *Psittacus platurus*. However, as this is by no means certain from Vieillot’s insufficient description, and as the next species is generally considered to be the *P. platurus*, it is better to adopt for the present species the name *flavicans*, under which Mr. Cassin has accurately described the female. Mr. Wallace has lately met with this bird in the same locality as that in which Forsten found it. As he truly says\*, it is “very distinct in both sexes” from the *P. setarius*.

2. PRIONITURUS SETARIUS.

*Psittacus setarius*, Temm. Pl. Col. 15.

*Prioniturus platurus*, Wagl. Mon. Psitt. p. 523 (nec Vieill.); Bp. Consp. Av. p. 6.

*Psittacus spatuliger*, mas, Bourj. Perr. t. 53.

*Racket-tailed Parrot*, Lath. Gen. Hist. ii. p. 167. pl. 24.

*Prioniturus platurus* et *P. wallacii*, G. R. Gray, List of Psitt. p. 17.

\* See ‘Ibis,’ 1860, p. 141.

Diagn.—♂. *Viridis*; *torque angusto cervicali postico aurantiaco*: *macula verticali antice roseo-rubra, postice plaga cinerea terminata*: *alis fascia lata grisea, secundarias occupante, bipartitis, axillis cyanescentibus*: *rectricibus intermediis valde elongatis, denudatis, disco terminatis.*

♀. *Macula verticali nulla*: *rectricibus intermediis brevioribus.*

*Hab.* In ins. Celebes, reg. Boreali et Merid. (Wallace).

*Mus.* Brit. (♂ et ♀); Lugd. (♂).

Mr. Wallace obtained specimens of both sexes of this Parrot near Macassar in Southern Celebes, and has also lately met with it again in Northern Celebes, near the Lake of Tondano, though more sparingly than *P. flavicans*. I have examined Temminck's type in the Leyden Museum, and I can see no difference between that and Mr. Wallace's birds.

This species may be distinguished from the former at the first glance (1) by its narrow and distinct hind neck-collar, that in *P. flavicans* being broad and extending all round the neck and over the body below; (2) by its rosy head-spot, bordered behind by a broad greyish blotch, the head-spot in *P. flavicans* being rosy, and situated in the middle of a bluish blotch; (3) by the blue shoulders and pale greyish band formed by the secondaries, the wings in *P. flavicans* being uniform green; (4) by the elongated under tail-coverts, those of *P. flavicans* being comparatively short.

### β. *Urodiscus*.

#### 3. PRIONITURUS DISCURUS.

*Psittacus discurus*, Vieill. Gal. des Ois. i. p. 7. pl. 36; Enc. Méth. p. 1369; Wagl. Mon. Psitt. p. 524.

*Psittacus spatuliger*, fœm., Bourj. St.-Hil. Perr. t. 53 a.

*Prioniturus discurus*, Bp. Consp. Av. p. 6.

*Hab.* In ins. Mindanao Philippinensium (Vieill.).

*Mus.* Parisiensi.

The British Museum contains specimens of two nearly allied, but probably distinct species of this section of the genus *Prioniturus*, both from the Philippines. They are distinguished in Mr. Gray's Catalogue as *P. discurus* and *P. spatuliger*. But as the latter specific appellation was used by Bourjot St.-Hilaire for a compound species formed by the union of *P. setarius* and *P. discurus*, it is a useless synonym. It follows, therefore, that whichever of the two Philippine species is different from that in the Paris Museum, which is the type of Vieillot's and B. St.-Hilaire's figures, will require a new name.

I take this opportunity also of exhibiting a Table illustrative of the present condition of our knowledge of the distribution of the *Psittacidae* in the Eastern Archipelago, which I have drawn up at the request of Mr. A. R. Wallace. In the Indian Region, which includes the great islands of Sumatra, Java, and Borneo, and extends over the Philippines, the generic types of this family are few. *Palæornis* and *Loriculus* are the most prominent. *Psittinus* consists of a single species found in Malacca, Sumatra, and Borneo: and *Cyclopsitta*,

with one or perhaps two species, is peculiar to the Philippines, where also *Urodiscus* (a subgenus scarcely separable from *Prioniturus*) occurs\*. But on crossing the Straits of Macassar and Lombok, which, as Mr. Wallace has well shown (Proc. Linn. Soc. iv. p. 172), form the boundary between the Indian and Australian regions, we meet at once with a strange contrast. In the islands scattered between this limit and the northern coast of Australia, not less than seventeen different genera of *Psittacidae* occur; and among them are two very peculiar types, the *Cacatuinae* and *Trichoglossinae*, which, as Mr. Wallace has observed, "extend up to the extreme limits of the region without a solitary species passing over into the Indian islands of the Archipelago."

The distribution of the *Psittacidae* in this region is further of great interest as exhibiting numerous instances of that well-known principle of geographical distribution according to which different horizontal areas are tenanted by closely allied and corresponding, though different species of the same generic type. The *Psittacidae*, both in the Old and New World, appear to be especially subject to the influence of this law †. Scarcely an instance is known of a bird of this family having an extended geographical range, and experience teaches us to be very suspicious of any supposed instance of the occurrence of the same species of Parrot in two localities of any distance apart. Mr. Wallace tells us that even between the *Lorius garrulus* of Gilolo and that of Batchian "there is a constant difference in the size of the dorsal yellow patch ‡."

The accurate working-out of the range and localities of the whole family would form a valuable contribution to our knowledge of zoological geography. There are, however, many species of the true *habitats* of which we are still ignorant. It is with the hope of being of some use to Mr. Wallace in his endeavours to increase our knowledge of this subject, that I have drawn up the Table I now exhibit. It is an extension of a somewhat similar one given in the zoological volume of the 'Verhandelingen.' Many additional localities have been ascertained by examination of the marked specimens in the Collection of Leyden, to which, through the courtesy of Professor Schlegel, I have always had unrestricted access during my visits to that city.

In the following lists of the species inhabiting the different islands, I have given the Museums where the specimens are to be found, and the names of the collectors, when ascertainable:—

\* With the exception of *Loriculus*, of which one species (*L. stigmatus*) has straggled over into Celebes, all these types are confined to the Indian as distinct from the Australian region. In the same way a single species of *Cacatua*—a characteristic group of the Australian region—(*C. philippinarum*), is found in the Philippines, and a *Tanygnathus*, or probably two of this group (*T. lucionensis* and *T. sumatranus*), the third species being peculiar to Celebes and Bouton.

† I have made some remarks on the exemplification of this law in the distribution of the *Psittacidae* in the various West India Islands, in the 'Annals and Magazine of Natural History' (1859), vol. iv. p. 224.

‡ 'Ibis,' 1860, p. 198.

## I. LOMBOCK.

1. *Cacatua æquatorialis*. Mus. Brit. Wallace.

## II. SUMBAWA.

1. *Trichoglossus forsteni*. Mus. Lugd. Forsten.

## III. CELEBES.

1. *Prioniturus setarius*. Mus. Brit. Wallace.
2. *P. flavicans*. Mus. Lugd. Forsten.
3. *Tanygnathus mülleri*. Mus. Brit. Wallace.
4. *Loriculus stigmatus*. Mus. Lugd. Forsten.
5. *Trichoglossus ornatus*. Mus. Lugd. Forsten.

## IV. BOUTON.

1. *Tanygnathus mülleri*. Mus. Lugd. Müller.
2. *Trichoglossus ornatus*. Mus. Lugd. Müller.

## V. TIMOR.

1. *Geoffroius jukesii*. Mus. Brit. Jukes.
2. *Aprosmictus vulneratus*. Mus. Lugd.
3. *Trichoglossus cyanogrammus*. Mus. Lugd. Müller.
4. — *euteles*. Mus. Lugd. Müller.
5. — *iris*. Mus. Lugd. Müller.
6. *Cacatua citrinocristata*. Mus. Par. Hombr. & Jacq.

## VI. AMBOYNA.

1. *Eclectus grandis*. Mus. Lugd.
2. *Geoffroius personatus*. Mus. Lugd. Forsten.
3. *Lorius tricolor*. Mus. Lugd. Müller.
4. *Eos rubra*. Mus. Lugd.
5. — *reticulata*. Mus. Lugd.
6. — *cyanostriata*. Mus. Lugd.
7. *Trichoglossus hæmatodus*. Mus. Lugd. Müller.

## VII. CERAM.

1. *Tanygnathus megalorhynchus*. Mus. Lugd.
2. *Eos squamata*. Mus. Lugd.
3. *Trichoglossus hæmatodus*. Mus. Lugd. Forsten.
4. *Cacatua moluccensis*. Mus. Lugd. Forsten.

## VIII. BATCHIAN.

1. *Tanygnathus megalorhynchus*. Mus. Brit. Wallace.
2. *Polychlorus magnus*. — —
3. *Geoffroius cyaneicollis*. — —
4. *Lorius garrulus*. — —
5. *Eos riciniata*. — —
6. *Trichoglossus placens?* — —
7. *Cacatua cristata*. — —



## IX. TERNATE.

- |                                   |            |   |
|-----------------------------------|------------|---|
| 1. <i>Polychlorus magnus</i> .    | Mus. Lugd. |   |
| 2. <i>Eos riciniata</i> .         | —          | — |
| 3. <i>Trichoglossus placens</i> ? | —          | — |
| 4. <i>Cacatua cristata</i> .      | —          | — |

## X. GILOLO.

- |  |            |   |
|--|------------|---|
| 1. <i>Tanygnathus megalorhynchus</i> . | Mus. Lugd. |   |
| 2. <i>Geoffroiis cyaneicollis</i> .    | —          | — |
| 3. <i>Aprosmictus hypophonius</i> .    | —          | — |
| 4. <i>Lorius garrulus</i> .            | —          | — |
| 5. <i>Eos riciniata</i> .              | —          | — |
| 6. — <i>coccinea</i> .                 | —          | — |

*E. magnus* Wall

## XI. WAIGIOU.

- |                                     |           |         |
|-------------------------------------|-----------|---------|
| 1. <i>Psittacodis stavorinii</i> .  | Mus. Par. | Lesson. |
| 2. <i>Chalcopsitta rubiginosa</i> . | —         | —       |

## XII. NEW GUINEA.

- |  |            |          |
|--|------------|----------|
| 1. <i>Eclectus cardinalis</i> .        | Mus. Brit. | Wallace. |
| 2. <i>Geoffroiis pucheranii</i> .      | —          | —        |
| 3. <i>Opopsitta diopthalma</i> .       | —          | —        |
| 4. — <i>desmaresti</i> .               | —          | —        |
| 5. <i>Aprosmictus dorsalis</i> .       | —          | —        |
| 6. <i>Lorius tricolor</i> .            | —          | —        |
| 7. <i>Eos fuscata</i> .                | —          | —        |
| 8. <i>Chalcopsitta atra</i> .          | Mus. Par.  | Lesson.  |
| 9. <i>Trichoglossus nigrigularis</i> . | Mus. Brit. | Wallace. |
| 10. — <i>placens</i> .                 | Mus. Brit. | Wallace. |
| 11. <i>Charmosyna papuana</i> .        | Mus. Par.  | Lesson.  |
| 12. — <i>pulchella</i> .               | Mus. Brit. | Wallace. |
| 13. <i>Cacatua triton</i> .            | Mus. Lugd. | Müller.  |
| 14. <i>Microglossum aterrimum</i> .    | Mus. Lugd. | Müller.  |
| 15. <i>Dasyptilus pecquetii</i> .      | Mus. Lugd. |          |
| 16. <i>Nasiterna pygmæa</i> .          | Mus. Lugd. | Müller.  |

## XIII. MAFORS ISLANDS (in the Bay of Geelvink).

- |                               |            |          |
|-------------------------------|------------|----------|
| 1. <i>Lorius cyanauchen</i> . | Mus. Brit. | Wallace. |
| 2. <i>Eos cyanogenia</i> .    | Wallace.   |          |

## XIV. ARU ISLANDS.

- |  |            |          |
|--|------------|----------|
| 1. <i>Eclectus cardinalis</i> ?        | Mus. Brit. | Wallace. |
| 2. <i>Polychlorus magnus</i> .         | —          | —        |
| 3. <i>Geoffroiis aruensis</i> .        | —          | —        |
| 4. <i>Opopsitta diopthalma</i> .       | —          | —        |
| 5. <i>Chalcopsitta scintillans</i> .   | —          | —        |
| 6. <i>Trichoglossus nigrigularis</i> . | —          | —        |
| 7. — <i>coccineifrons</i> .            | —          | —        |
| 8. — <i>placens</i> .                  | —          | —        |
| 9. <i>Cacatua triton</i> .             | —          | —        |
| 10. <i>Microglossum alecto</i> .       | —          | —        |

## XV. SALOMON ISLANDS.

1. *Geoffroiis heteroclitus*. Mus. Par. Hombr. & Jacq.
2. *Lorius chlorocercus*. Mus. Brit. Macgillivr.
3. *Eos cardinalis*. Mus. Par. H. & J.
4. *Trichoglossus massena*. Mus. Brit. Macgillivr.
5. *Cacatua ducorsii*. Mus. Par. H. & J.

5. NOTE ON THE SPECIES OF THE GENUS PITHECIA, WITH THE DESCRIPTION OF A NEW SPECIES, *P. ALBICANS*. BY DR. JOHN EDWARD GRAY, F.R.S., V.P.Z.S., ETC.

(Mammalia, Pl. LXXXI.)

Buffon, in his 'Histoire Naturelle,' gives three figures of the animals of this genus; they are not easily recognized; and, according to M. I. Geoffroy, he is said to have figured one species and to have taken his description from another (see Cat. Méthod. p. 55).

M. Geoffroy the elder, in his 'Tableau des Quadrumanes,' published in 1812, noticed four species, viz. *P. leucocephala*, *P. miriquouina*, *P. rufiventer*, and *P. monachus*. The specimens then in the collection on which they were established were imperfect or young, and it has been found very difficult to assign these names with certainty to the specimens which have been recently collected.

Dr. Kuhl, who took the trouble to examine the original specimens in the Paris Museum, and to study the species existing at that time, viz. 1820, after more carefully describing the specimens named by Geoffroy, and those received between 1812 and 1820 by the Paris Museum, and also those in the Prince Maximilian's and Temminckian Museum at Leyden, added two others to Geoffroy's list, viz. *P. rufibarbata*, and *P. ochrocephala* (from a specimen in the Temminckian collection). M. Temminck, however, has considered (and Fischer has followed his lead) that *P. ochrocephala* is the female or young of *P. leucocephala*, and *P. rufibarbata* the same as *P. rufiventer* of Geoffroy and Kuhl. I think, from Dr. Kuhl's description, that his account of the subannulated hair may probably be correct,—the peculiar pointed form of the tail, which Dr. Kuhl says distinguishes it from all other *Pitheciæ*, being dependent on its having been kept in a menagerie. But the description of *P. ochrocephala* does not agree with any specimens of the genus I have seen. In the division of the hair on the forehead it agrees with *P. chrysocephala* of Isidore Geoffroy; but then, that species, as far as I have seen, never has the upper side of the tail and the outside of the limbs chestnut-brown. Can it be a *Callithrix*?

I may here observe that the *Pithecia miriquouina*—which both Geoffroy and Kuhl describe from one specimen, if not more, in the Paris Museum, and which has been called *Simia azara* by Cuvier and Humboldt, and is referred by Dr. Kuhl to *P. adusta* of Illiger with doubt, and is evidently very distinct, according to these authors—has



en 1846

M & N. Pansart, imp.

PITHECIA SAPIENS



somehow dropped out of the modern works. It is nowhere to be found in M. Isidore Geoffroy's Catalogue of the American Monkeys now in the Paris Collection. What is, or was, it?

Spix, in his large work on the Monkeys and Bats of Brazil, figured and described three species as new, viz. :—

1. *P. hirsuta* (p. 14. t. 9), which Fischer (Syn. Mamm.) arranged with the subgenus *Chiripotés*; but it is evidently a true long-tailed *Pithecia*, and very probably *P. monachus*.

2. *P. inusta* (p. 15. t. 10 ♂), which Fischer considers as distinct, and I believe that it is most probably the *P. chrysocephala* of M. I. Geoffroy; but the line in the centre of the forehead has been overlooked, if it exists; otherwise it agrees with that animal pretty well.

3. *P. capillamentosa* (p. 16. t. 11 ♀). Fischer considered this to be the same as *P. rufiventer* of Geoffroy and Kuhl, which appears very probable. But they are all so indistinctly figured and described, that it is very difficult to refer them with certainty to any of the described species.

Some specimens of this genus having been obtained by the British Museum, I was induced, in the 'Zoology of the Voyage of H.M.S. Sulphur,' published in 1842, to describe and figure the three species then in the Collection, and to give as correct an account of their synonyms as the means at my disposal then allowed. This must now be corrected by the additional information respecting the original specimens given in the Catalogue of M. Isidore Geoffroy.

In the 'Catalogue Méthodique de la Collection des Mammifères,' in the Paris Museum, published in 1851 by M. Isidore Geoffroy Saint-Hilaire, he indicates five species of the long-tailed *Pithecia*, adding to the three species described by his father (viz. *P. leucocephala*, *P. rufiventer*, and *P. monachus*), *P. chrysocephala* and *P. albinasa*. The two latter he also describes at greater length in his paper on 'New Primates,' in the fifth volume of the 'Archives du Muséum,' giving a good figure of *P. chrysocephala*.

I may here observe, that two of the species which I regarded as new in the 'Zoology of the Sulphur'—viz. *P. pogonias* and *P. irrorata*—appear, according to the account of M. Isidore Geoffroy, to have been previously described by his father, though M. Isidore Geoffroy does not refer to them in his synonyms. Again, that which I have considered to be the *P. leucocephala* of his father is evidently the species which M. Isidore Geoffroy has described and figured as new, under the name of *P. chrysocephala*; and here also he neglects to make the reference to the prior description and figure.

We have in the British Museum thirteen specimens of this genus. They evidently belong to four very distinct species, of which three are those I described in the 'Zoology of the Voyage of H.M.S. Sulphur,' and the fourth the new one now first noticed, as far as I have been able to discover.

The species may be divided into two sections :—

- I. *The head and sides of the face covered with abundance of adpressed hair, which is longer on the sides of the chin in front of the ears; the forehead with a bald central longitudinal streak.*

1. *PITHECIA CHRYSOCEPHALA.*

*Pithecia chrysocephala*, I. Geoffroy, Compt. Rendus, xxxi. 1850, p. 875; Cat. Mamm. p. 55; Arch. du Mus. v. p. 557. t. 29.

*P. leucocephala*, Gray, Zool. Sulphur, p. 12. t. 2 (head).

*P. inusta*, Spix, Bras. p. 15. t. 10 ♂.

*Hab.* Brazil?

The character which Dr. Kuhl gives of the longitudinal line on the forehead and the short yellow hair on the head of his *P. ochrocephala*, which he described from a species in the Temminckian Collection, makes me think that species must be very nearly allied to *P. chrysocephala*; but it differs from it in the upper side of the tail and outer side of the limbs being chestnut: could this have arisen from the specimen having been in confinement?

- II. *The head covered with hair directed forwards; the face with distant hairs, rather divergent from the centre on the forehead, and more abundant, forming a kind of moustache on each side of the nose in front of the eyes; all more or less deciduous on the older specimens, which often have a bald face; forehead without any distinct naked central line.*

2. *P. MONACHUS.*

*P. monachus*, Geoff. & Kuhl, Beitr. p. 45; from a very young specimen in a bad state.

*P. irrorata*, Gray, Zool. Sulphur, p. 14. t. 3, adult.

*P. hirsuta*, Spix, Bras. p. 14. t. 9.

Black: hair elongate, with elongated white tips; hair of the head rather elongated.

*Adult.*—Face nearly bald, *l. c.* t. 3.

*Young.*—Face hairy, black, with white moustache in front of the eyes and side of the chin.

*Hab.* Rio Negro.

3. *P. RUFIVENTRIS.*

*P. rufiventer*, Geoff. *l. c.*

*P. pogonia*, Gray, Ann. and Mag. N. H. 1842, p. 256; Zool. Sulphur, p. 13. t. .

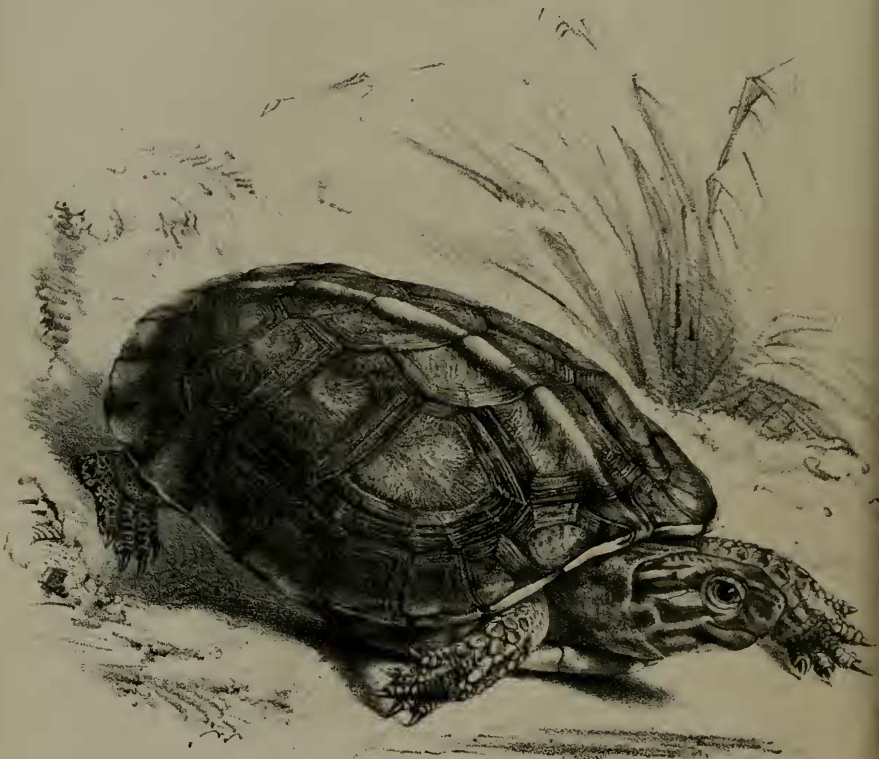
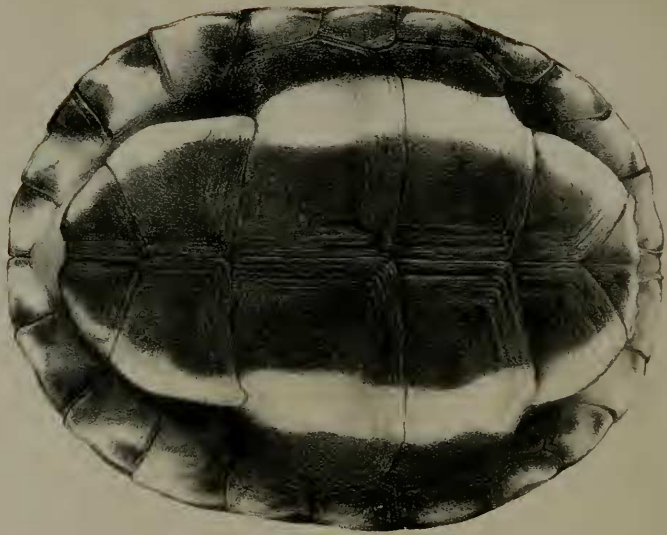
*P. capillamentosa*, Spix, Bras. t. 11.

*Saki*, Buffon.

Black: the hair elongate, with a subterminal yellowish ring with a very short slender blackish tip beyond it; hair of the head moderately elongated; moustache bright yellow, very distinct, but formed of short adpressed hair; chest and belly reddish; face blackish.

*Hab.* Brazil.







The four species in the Museum, of different ages, from young to adult, scarcely vary from one another.

#### 4. *P. ALBICANS.* (Pl. LXXXI.)

Hair very long and loose; that of the head, neck, and upper part of the thighs whitish; that of the shoulders, back, sides, tail, and fore legs black, with short white tips; on the hind legs, sides of the neck, inside of limbs, chest and belly, reddish. The hair of the head very long, covering a great part of the face.

*Young.*—Hair of the head, neck, and shoulders very long (longer than in the adult), blackish near the roots, and on the under side of the body rather more rufous; the moustaches more distinct.

*Hab.* Brazil; Upper Amazon (*Mr. Bates*).

The following species appear to be distinct from the above:—

1. *Pithecia leucocephala*, Geoffroy; Kuhl, Beitr. p. 45, which the latter says is well figured as the Yarqué by Audebert (Singes, 6. sect. 1. f. 2), and which he describes thus:—"Nigra; capite albo; omnibus pilis corporis unicoloribus longissimis, caudalibus præsertim, capitis autem albis brevibus."

The young male, adds M. I. Geoffroy, "diffère de l'adulte par le ventre d'un brun roussâtre, le pélage tiqueté sur les parties latérales, et surtout par la tête revêtue de poil en partie noir. Chez les adultes les poils de la tête sont entièrement d'un blanc lavé de jaune, qui passe au jaune sur les joues."

2. *P. albinasa*, Geoff. Cat. Mamm. p. 56; Arch. du Mus. v. 559.

"Espèce distincte dès le premier aspect, par son nez couvert de poil ras, dont la blancheur contraste avec le reste de la face et tout le pélage, qui sont d'un noir profond."

*Hab.* Para, Brazil.

#### 6. DESCRIPTION OF A NEW SPECIES OF GEOCLEMMYS FROM ECUADOR. BY DR. J. E. GRAY, F.R.S., V.P.Z.S., ETC.

(Reptilia, Pl. XXIX.)

Mr. Cuming has lately sent to the Museum two shells of a species of Freshwater Tortoise, and a younger specimen, in spirits, of the same animal, obtained by Mr. Fraser at Esmeraldas, on the western coast of Ecuador.

#### GEOCLEMMYS ANNULATA. (Pl. XXIX.)

Shell oblong, subquadrangular, black, slightly and irregularly varied with yellow; the vertebral plates square, almost as long as broad, with a compressed flat-topped anterior keel, highest on the fourth vertebral plate, which is narrower behind; margin sub-entire, with a triangular yellow spot on the under side of each plate; nuchal

plate distinct; sternum flat, rounded on the sides, black, with a broad yellow band, forming a ring round the margin.

*Hab.* Esmeraldas, Ecuador.

The adult shell has much the external appearance of a Land Tortoise of the genus *Testudo*, but it has the divided caudal plate of the *Emyda*. The nuclei of the vertebral plates are posterior and submarginal; those of the costal plates are placed in the upper hinder angle; the horny shields of these plates are concentrically grooved. The sternum is flat, rather suddenly bent up and truncated in front, and slightly curved, and with a deep triangular notch behind: the broad yellow ring on this part gives it a very distinct appearance.

The young specimen, with the animal preserved in spirits, is black like the adult, but the back is much lower and rather concave in the middle, with a very strong, yellow, rounded keel. The hinder margin is slightly, and the front lateral margin is strongly, turned up at the edge. The head is rather small and black, the crown, the temple, and the neck being varied with broad white streaks or spots. The limbs are black, with a few broad white streaks and some white spots. The front of the fore legs is covered with cross rows of large scales; the soles of the feet with larger scales; the rest of the legs is covered with small granular scales; the hinder edge of the fore feet with three or four acute shields; the outer edge of the hind feet, marking the rudimentary outer hind toe, is edged with larger shields. Toes 5-4, short, thick, conical, only very slightly webbed at the base, and covered above and on the sides with three series of rather large shields. Tail short, conical, with rings of small black scales.

7. DESCRIPTION OF A NEW SPECIES OF EMYS LATELY LIVING IN THE GARDENS OF THE ZOOLOGICAL SOCIETY. BY DR. J. E. GRAY, F.R.S., V.P.Z.S., ETC.

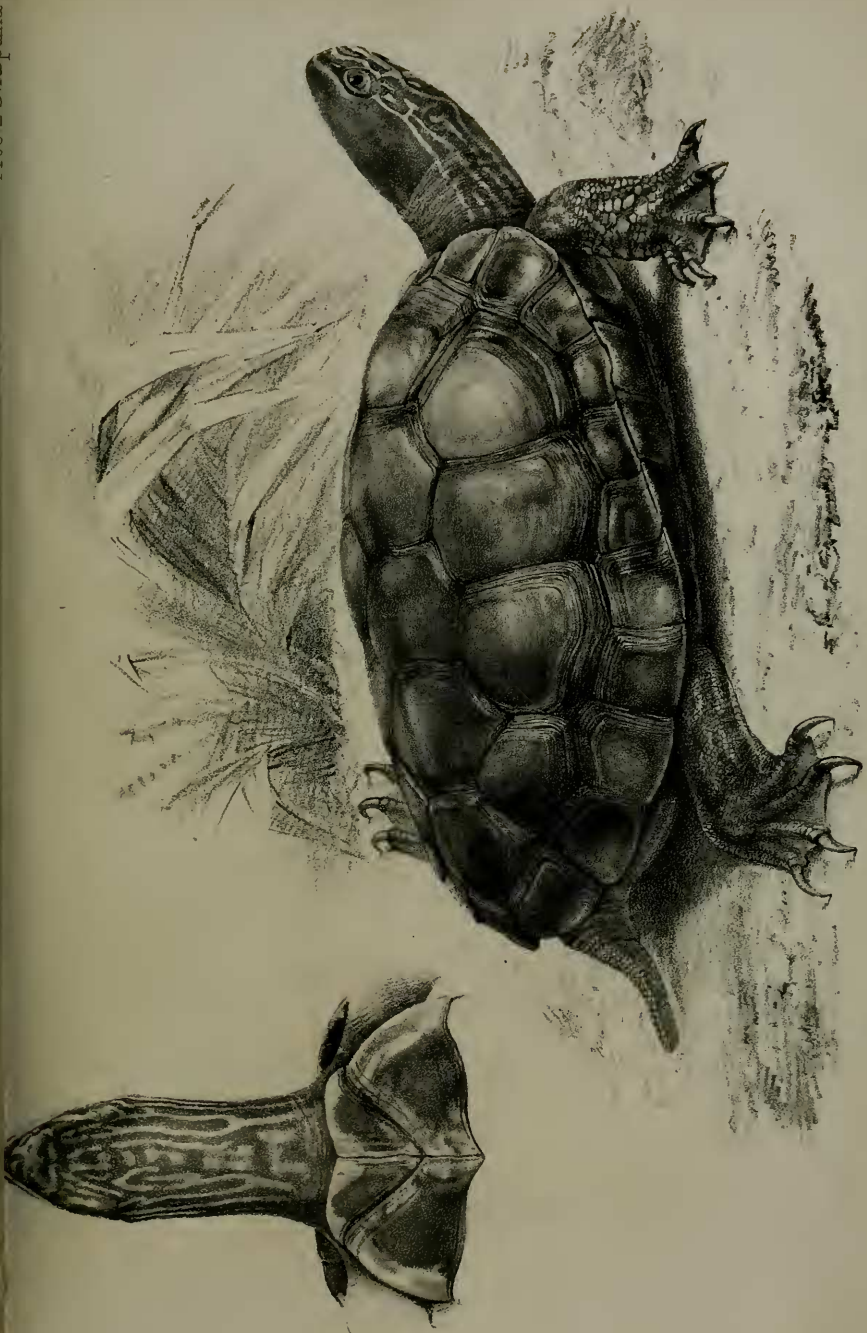
(Reptilia, Pl. XXX.)

The British Museum has lately received from the Zoological Society a specimen of an *Emys* which has recently died in the Gardens. It is believed to have been one of five specimens brought from Egypt by C. W. Domville, Esq., in 1852; but this is not certain. It is quite distinct from any which have hitherto come under my observation.

EMYS FULIGINOSUS, (Pl. XXX.)

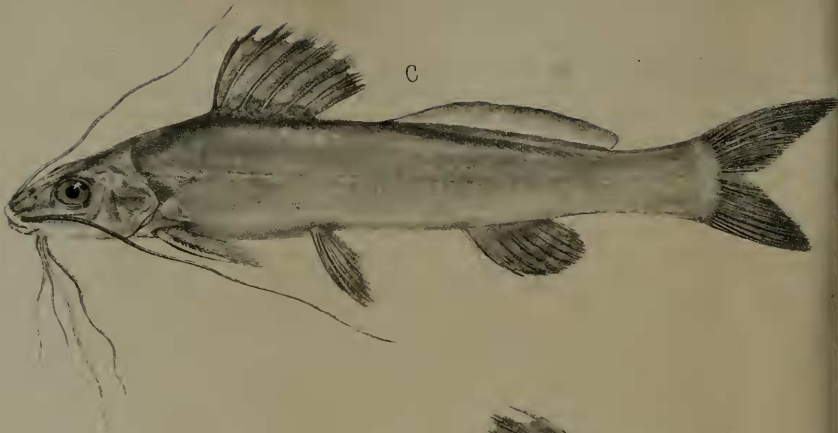
Depressed, flexible, black. Shields convex, rather irregular, with deep, irregular, subconcentric grooves of unequal depression. Under-side black, with white blotches on the front margin of the sternum and on the inner edge of the central marginal plates near the sterno-costal suture, and a small irregular white blotch on the middle of the under side of the front marginal plates. Head rather depressed; crown covered with a continuous, smooth, rather horny skin. Jaws mottled with sinuous white lines or spots; sides of the neck with

EMYS FULIGINOSUS

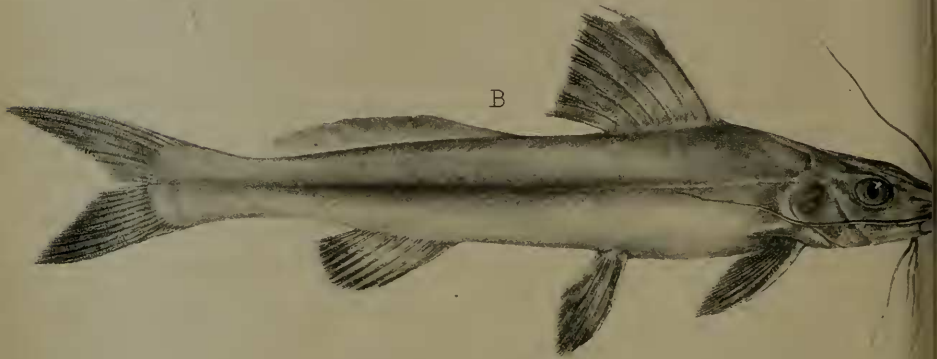




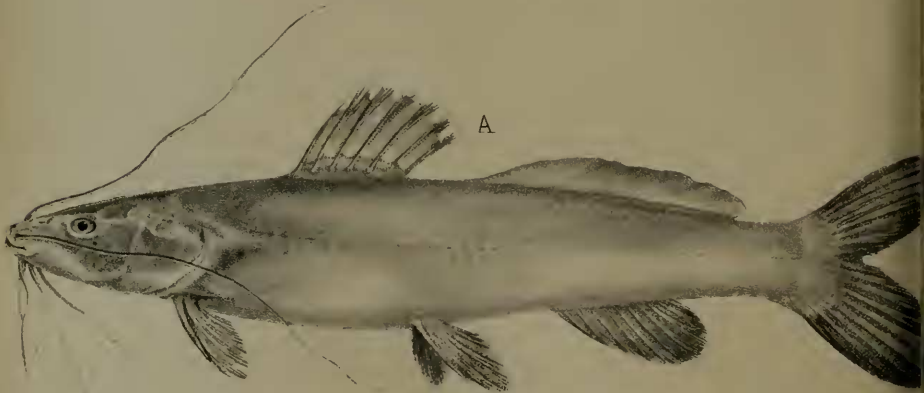




C



B



A

A. PIMELODUS CINERASCENS. *Gehr.*

B. \_\_\_\_\_ ELONGATUS. *Gehr.*

C. \_\_\_\_\_ MODESTUS. *Gehr.*

narrow white lines; the chin and throat mottled with broader white streaks, often interrupted or coalescing, or short and sinuous; the temple with a distinct round white spot, with two or three small white dots in front of it; the tympanum with a central white spot, and edged with a white streak in front. Legs and feet black; the front of the fore legs varied with white irregular streaks or spots, especially on the inner side, and with a white streak down the centre of the upper side of each toe. Toes distinctly webbed; claws rather elongate, curved, acute, black, with pale edges; the toes with a single central series of larger scales above. Fore legs with four large conical scales on the outer part of the upper side, and with a cross series of three square scales on the under side of the wrist. The hind legs and feet covered with equal, small triangular scales. Tail conical, black, with two transverse streaks before the vent.

*Hab.* North Africa?

8. THIRD LIST OF COLD-BLOODED VERTEBRATA COLLECTED BY MR. FRASER IN ECUADOR. BY DR. ALBERT GÜNTHER.

(Pisces, Pl. X.)

The third collection of Reptiles and Fishes sent by Mr. Fraser contains specimens from Guayaquil and from Esmeraldas. Several of the species are new; these are marked with an asterisk; others have been described in the former accounts †.

1. *Species from Guayaquil.*

1. *Anolis fraseri*, Gthr.
2. *Cnemidophorus undulatus*, Wieg.
3. \**Typhlops*, n. sp. (a single very young specimen).
4. *Dryophis (Coluber) acuminatus*, Wied.
5. \**Eleotris*, n. sp. ‡
6. \**Pimelodus cinerascens*, Gthr.
7. *Macrodon tareira*, Cuv. & Val.

2. *Species from Esmeraldas.*

1. \**Geoclemmys annulata*, Gray.
2. *Ameiva sex-scutata*, Gthr.
3. *Basiliscus seemanni*, Gray.
4. *Iguana tuberculata*, Laur.
5. *Anolis fraseri*, Gthr.
6. *Camilia jamaicensis*, Gray.
7. *Boa constrictor*, L.
8. \**Coryphodon rhombifer*, Gthr.
9. *Herpetodryas brunneus*, Gthr.
10. *Bufo aqua*, Latr.

† Proc. Zool. Soc. 1859, pp. 89, 402.

‡ The new species of the *Gobioides* will be described in my 'Catalogue of Acanthopterygian Fishes.'